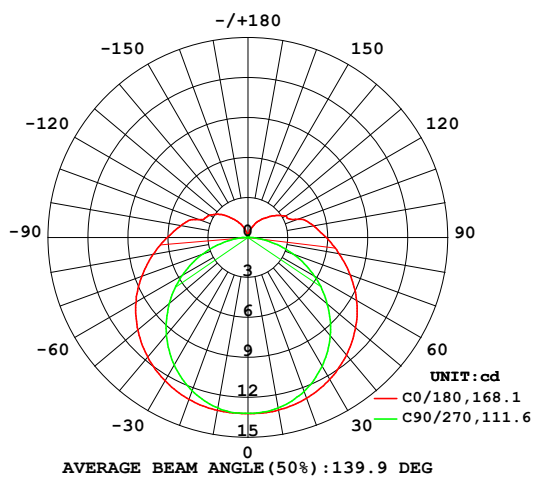


LUMINAIRE PHOTOMETRIC TEST REPORT

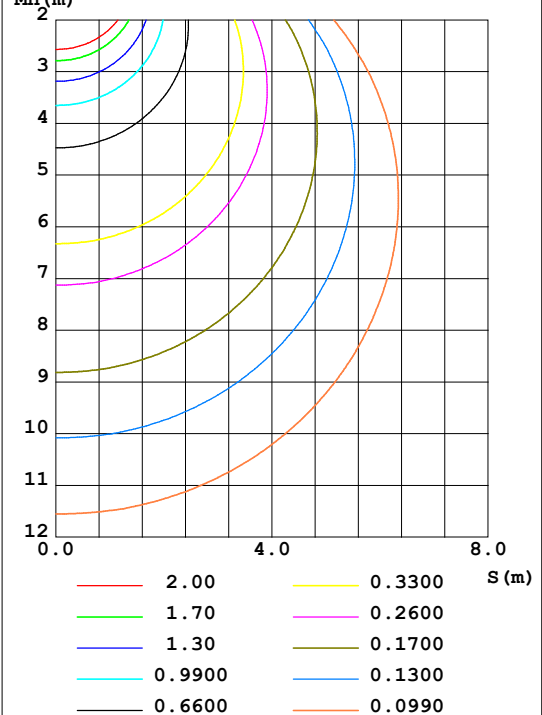
Test:U:24.00V I:0.1710A P:4.100W PF:1.000 Freq:0Hz Lamp Flux:59.4263x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-R	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 14.49 lm/W			
MODEL	NNS1224	I _{max} (cd)	13.22	S/MH (C0/180)	1.41
NOMINAL POWER (W)	4	LOR (%)	100.0	S/MH (C90/270)	1.25
RATED VOLTAGE (V)	24	TOTAL FLUX (lm)	59.426	h UP, DN (C0-180)	8.8, 40.8
NOMINAL FLUX (lm)	59.4263	CIE CLASS	SEMI-D.	h UP, DN (C180-360)	8.9, 41.4
LAMPS INSIDE	1	h up (%)	17.8	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	24	h down (%)	82.2	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: COLORS
Test Date: 2019-07-01

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.750m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

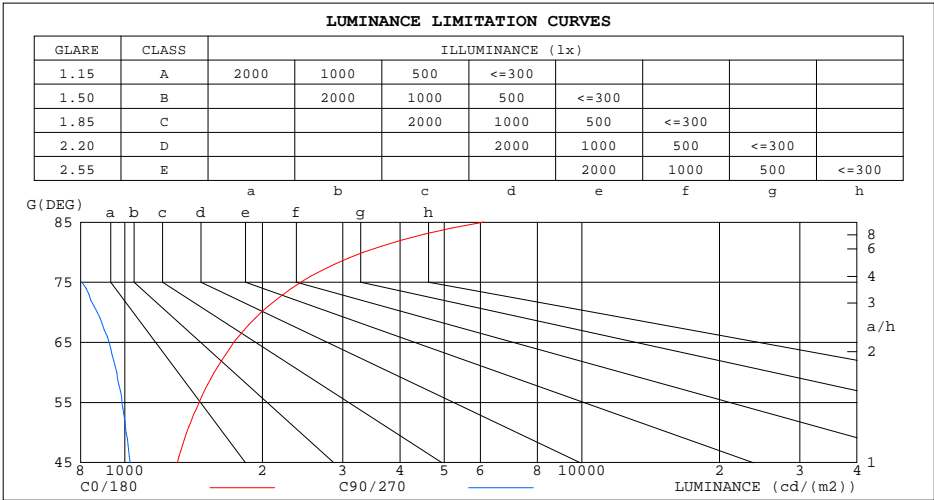
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	13.15	12.99	13.17	12.99					0~ 10	1.255	1.255	2.11,2.11
20	12.84	12.31	12.93	12.24					10~ 20	3.638	4.893	8.23,8.23
30	12.28	11.14	12.42	11.06					20~ 30	5.626	10.52	17.7,17.7
40	11.51	9.618	11.70	9.532					30~ 40	7.009	17.53	29.5,29.5
50	10.54	7.769	10.80	7.708					40~ 50	7.662	25.19	42.4,42.4
60	9.415	5.764	9.699	5.705					50~ 60	7.557	32.75	55.1,55.1
70	8.160	3.571	8.475	3.593					60~ 70	6.746	39.49	66.5,66.5
80	6.942	1.473	7.215	1.565					70~ 80	5.399	44.89	75.5,75.5
90	5.880	0.1802	6.068	0.3937					80~ 90	3.980	48.87	82.2,82.2
100	5.024	0.0451	5.131	0.0579					90~100	3.080	51.95	87.4,87.4
110	4.045	0.0708	3.974	0.0451					100~110	2.488	54.44	91.6,91.6
120	3.258	0.0966	3.359	0.0579					110~120	1.775	56.22	94.6,94.6
130	2.557	0.1269	2.721	0.0773					120~130	1.379	57.60	96.9,96.9
140	1.881	0.1481	1.890	0.0773					130~140	0.9194	58.52	98.5,98.5
150	1.346	0.1611	1.229	0.0900					140~150	0.5363	59.05	99.4,99.4
160	0.7604	0.1823	0.6819	0.1415					150~160	0.2664	59.32	99.8,99.8
170	0.2126	0.1887	0.2400	0.1856					160~170	0.0895	59.41	100,100
180	0.1931	0.1931	0.1803	0.1931					170~180	0.0189	59.43	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.1710A P:4.100W PF:1.000 Freq:0Hz Lamp Flux:59.4263x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-R	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	6103	621
80	3331	707
75	2430	805
70	1988	870
65	1732	924
60	1569	961
55	1454	987
50	1366	1007
45	1302	1028

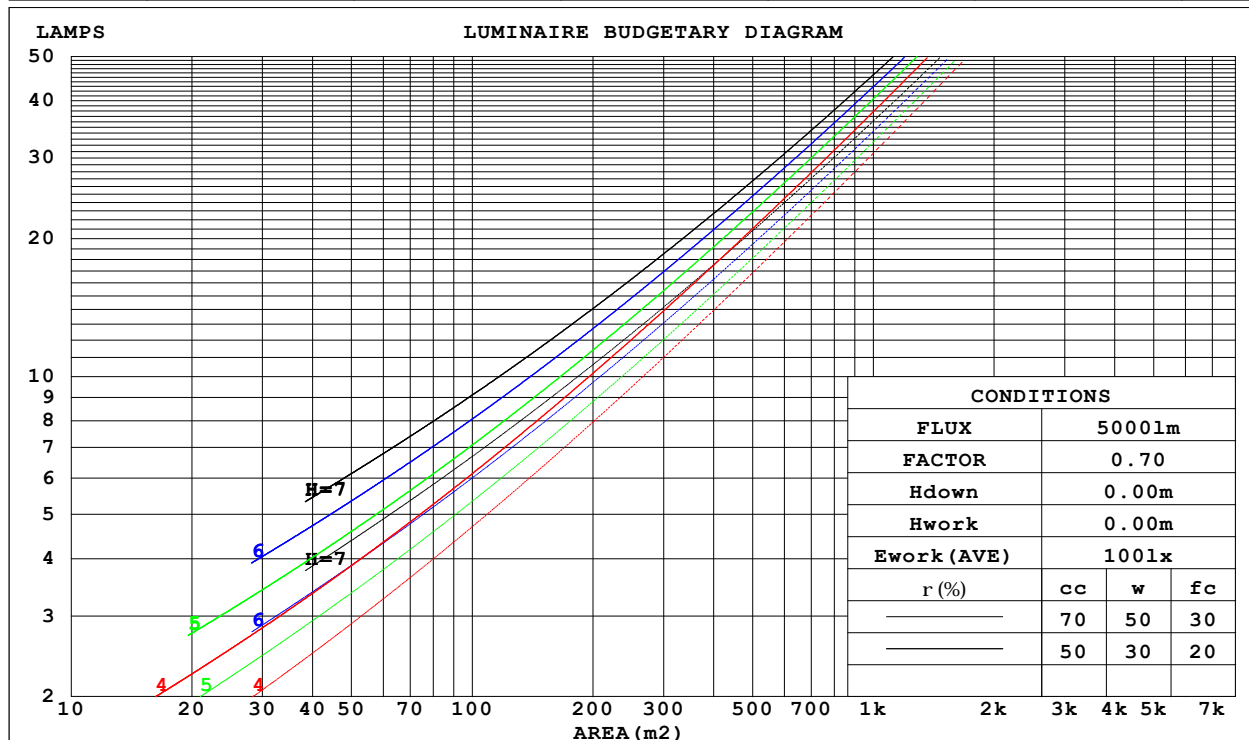
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.1710A P:4.100W PF:1.000 Freq:0Hz Lamp Flux:59.4263x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-R	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

r _{cc}	80%			70%			50%			30%			10%			0
r _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.15	1.15	1.15	1.10	1.10	1.10	1.01	1.01	1.01	.93	.93	.93	.86	.86	.86	.82
1.0	.96	.91	.86	.92	.87	.83	.85	.81	.77	.78	.75	.72	.71	.69	.67	.63
2.0	.82	.75	.68	.79	.72	.66	.72	.67	.62	.66	.62	.58	.61	.57	.54	.51
3.0	.72	.63	.56	.69	.60	.54	.63	.56	.51	.58	.52	.48	.53	.48	.45	.41
4.0	.63	.53	.46	.60	.52	.45	.55	.48	.42	.51	.45	.40	.47	.42	.38	.35
5.0	.56	.46	.39	.54	.45	.38	.49	.42	.36	.46	.39	.34	.42	.37	.32	.30
6.0	.50	.41	.34	.48	.39	.33	.44	.37	.31	.41	.35	.30	.38	.32	.28	.26
7.0	.45	.36	.30	.43	.35	.29	.40	.33	.28	.37	.31	.26	.34	.29	.25	.22
8.0	.41	.32	.26	.39	.31	.26	.37	.30	.24	.34	.28	.23	.32	.26	.22	.20
9.0	.37	.29	.23	.36	.28	.23	.34	.27	.22	.31	.25	.21	.29	.24	.20	.18
10.0	.34	.26	.21	.33	.26	.21	.31	.24	.20	.29	.23	.19	.27	.22	.18	.16



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:24.00V I:0.1710A P:4.100W PF:1.000 Freq:0Hz Lamp Flux:59.4263x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-R	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Wall Exitance Coefficients (WEC)												
0.0																
1.0	.375	.213	.068	.362	.207	.066	.339	.194	.062	.317	.183	.059	.297	.172	.056	
2.0	.328	.180	.055	.316	.174	.054	.295	.164	.051	.275	.154	.048	.257	.145	.046	
3.0	.292	.156	.047	.282	.151	.045	.263	.142	.043	.245	.134	.041	.228	.126	.039	
4.0	.264	.137	.040	.255	.133	.039	.237	.126	.038	.221	.119	.036	.206	.112	.034	
5.0	.240	.123	.035	.232	.119	.035	.216	.113	.033	.201	.106	.032	.187	.100	.030	
6.0	.221	.111	.032	.213	.108	.031	.198	.102	.030	.185	.096	.028	.172	.091	.027	
7.0	.204	.101	.029	.197	.098	.028	.183	.093	.027	.171	.088	.026	.159	.083	.024	
8.0	.189	.092	.026	.183	.090	.025	.170	.085	.024	.159	.081	.023	.148	.076	.022	
9.0	.176	.085	.024	.170	.083	.023	.159	.079	.022	.149	.075	.021	.139	.070	.020	
10.0	.165	.079	.022	.160	.077	.022	.149	.073	.021	.140	.069	.020	.130	.066	.019	

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Ceiling Cavity Exitance Coefficients(CCEC)												
0.0	.326	.326	.326	.278	.278	.278	.190	.190	.190	.109	.109	.109	.035	.035	.035	
1.0	.321	.292	.266	.275	.251	.229	.188	.172	.158	.108	.100	.092	.035	.032	.030	
2.0	.314	.269	.231	.269	.232	.200	.185	.160	.139	.106	.093	.082	.034	.030	.027	
3.0	.307	.253	.209	.263	.218	.181	.181	.151	.127	.104	.088	.075	.034	.029	.025	
4.0	.299	.240	.195	.257	.207	.169	.177	.145	.119	.102	.085	.070	.033	.028	.023	
5.0	.292	.230	.185	.250	.199	.161	.172	.139	.114	.100	.082	.067	.032	.027	.022	
6.0	.284	.222	.178	.244	.192	.155	.169	.135	.109	.098	.079	.065	.032	.026	.021	
7.0	.277	.216	.172	.238	.187	.150	.165	.131	.106	.096	.077	.063	.031	.025	.021	
8.0	.271	.210	.168	.233	.182	.147	.161	.128	.104	.094	.075	.062	.030	.025	.021	
9.0	.264	.205	.165	.228	.178	.144	.158	.125	.102	.092	.074	.061	.030	.024	.020	
10.0	.258	.201	.163	.223	.175	.142	.155	.123	.101	.090	.073	.060	.029	.024	.020	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.1710A P:4.100W PF:1.000 Freq:0Hz Lamp Flux:59.4263x1 lm											
NAME: NNS1224					TYPE:			WEIGHT:			
SPEC.:NNS1224-0RGB24CSS050CC0100-R					DIM.: 1000*12*24mm			SERIAL No.:			
MFR.: Colors					SUR.:1000*12			Shielding Angle:			
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions	Viewed crosswise					Viewed endwise					
x = 2H y = 2H	23.1	24.5	23.6	25.0	25.6	21.4	22.8	21.9	23.3	23.8	
	3H	25.7	27.0	26.3	27.5	28.1	22.9	24.2	23.5	24.7	25.3
	4H	27.2	28.4	27.7	28.9	29.5	23.6	24.8	24.1	25.3	25.9
	6H	28.8	29.9	29.4	30.5	31.1	24.0	25.1	24.6	25.7	26.3
	8H	29.7	30.8	30.3	31.4	32.0	24.1	25.2	24.7	25.8	26.5
	12H	30.8	31.8	31.4	32.4	33.1	24.2	25.3	24.8	25.9	26.5
4H	2H	23.7	24.9	24.2	25.4	26.0	22.4	23.6	22.9	24.1	24.8
	3H	26.4	27.5	27.0	28.1	28.8	24.2	25.2	24.8	25.8	26.5
	4H	28.1	29.0	28.7	29.6	30.3	25.0	26.0	25.6	26.6	27.3
	6H	29.9	30.7	30.5	31.4	32.1	25.6	26.5	26.3	27.1	27.9
	8H	30.9	31.7	31.6	32.4	33.1	25.8	26.7	26.5	27.3	28.1
	12H	32.1	32.9	32.8	33.5	34.3	26.0	26.7	26.7	27.4	28.2
8H	4H	28.3	29.1	29.0	29.8	30.5	25.8	26.6	26.5	27.3	28.0
	6H	30.4	31.1	31.1	31.8	32.6	26.8	27.5	27.5	28.1	28.9
	8H	31.6	32.2	32.3	32.9	33.7	27.2	27.8	27.9	28.5	29.3
	12H	33.1	33.6	33.8	34.3	35.2	27.6	28.1	28.3	28.8	29.6
12H	4H	28.3	29.1	29.0	29.7	30.5	26.1	26.8	26.7	27.5	28.3
	6H	30.5	31.1	31.2	31.8	32.6	27.2	27.8	27.9	28.5	29.4
	8H	31.8	32.3	32.5	33.0	33.9	27.8	28.3	28.5	29.1	29.9
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.5					

CIE Pub.117, 59.43 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -9.8)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.1710A P:4.100W PF:1.000 Freq:0Hz Lamp Flux:59.4263x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-R	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

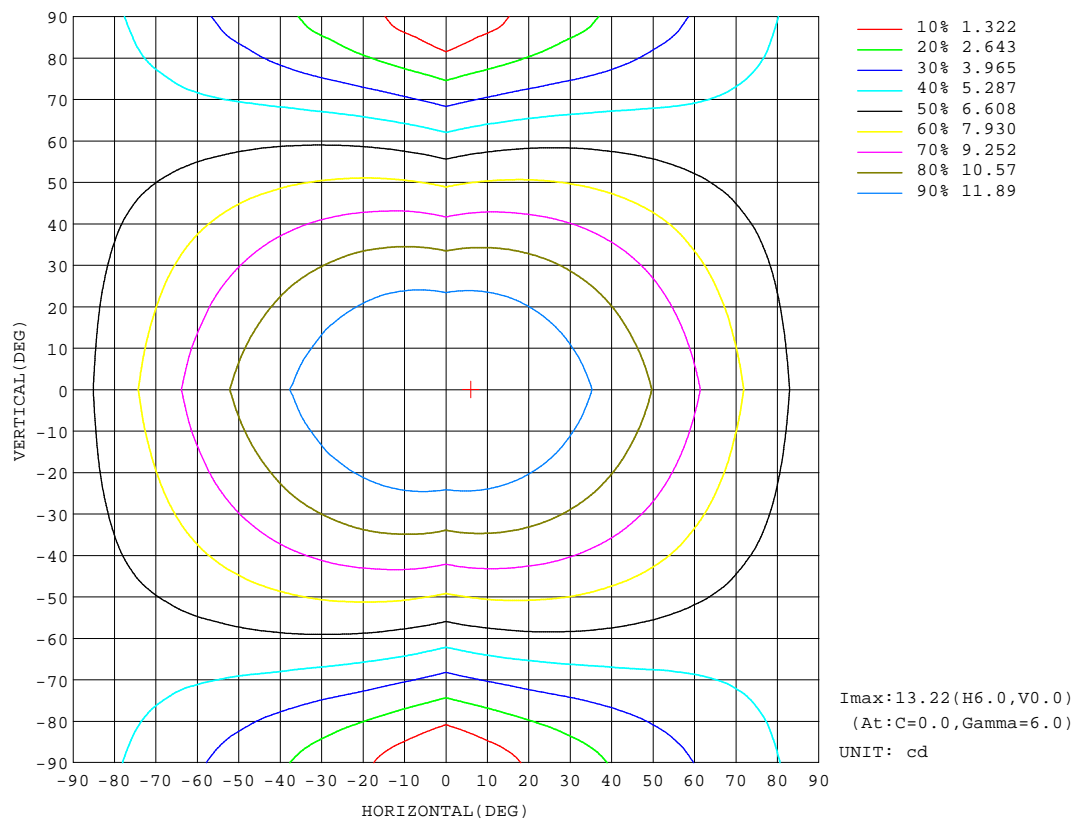
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	36	29	47	35	28	45	35	28	21
0.80	57	45	37	56	44	36	53	42	35	28
1.00	65	53	44	63	51	44	60	52	42	34
1.25	72	60	51	70	58	51	66	56	49	39
1.50	77	65	57	75	64	56	70	61	54	43
2.00	85	74	66	82	72	64	76	68	61	50
2.50	89	79	71	86	77	70	79	72	66	54
3.00	93	84	76	89	81	74	83	76	70	57
4.00	97	90	83	94	87	81	86	81	76	62
5.00	100	94	88	96	90	85	89	84	80	65
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-07-01

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.750m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:24.00V I:0.1710A P:4.100W PF:1.000 Freq:0Hz Lamp Flux:59.4263x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.: NNS1224-0RGB24CSS050CC0100-R	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



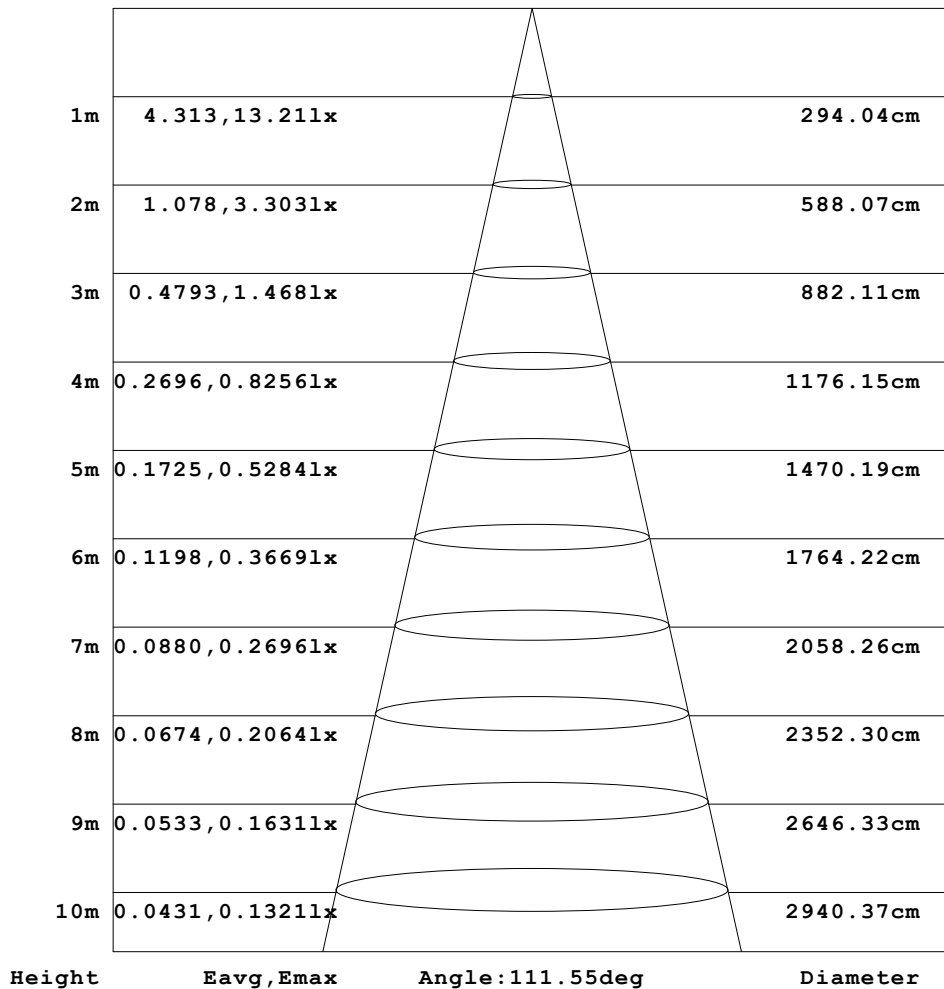
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

AAI Figure

Test:U:24.00V I:0.1710A P:4.100W PF:1.000 Freq:0Hz Lamp Flux:59.4263x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-R	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

Flux out:29.79 lm



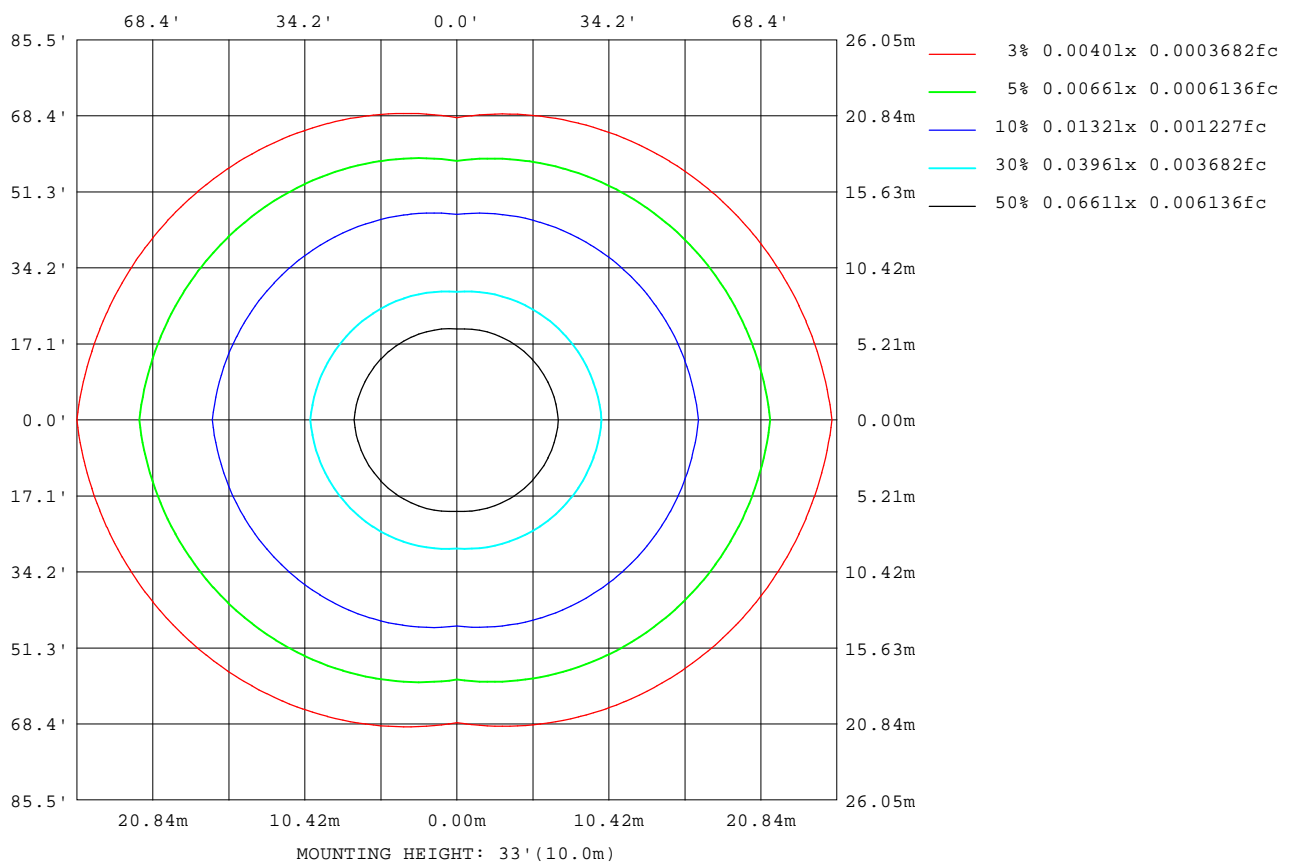
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: COLORS
Test Date: 2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.750m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:24.00V I:0.1710A P:4.100W PF:1.000 Freq:0Hz Lamp Flux:59.4263x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-R	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: COLORS
Test Date: 2019-07-01

Range: 0 - 180DEG
Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.750m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:24.00V I:0.1710A P:4.100W PF:1.000 Freq:0Hz Lamp Flux:59.4263x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-R	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

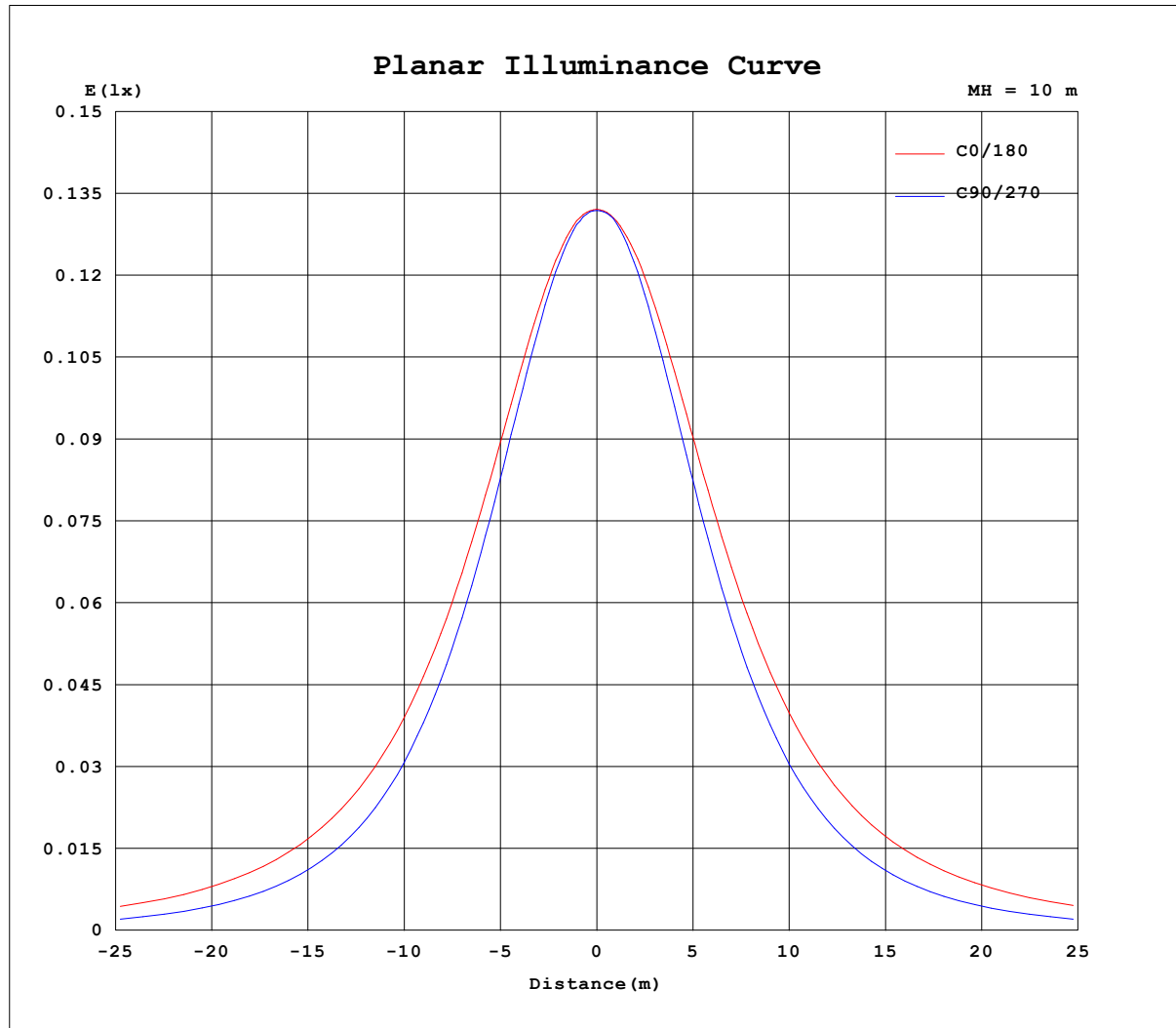
AvgL	cd/m2
L_0~180 (65) av	1764
L_0~180 (75) av	2477
L_0~180 (85) av	6218
L_90~270 (65) av	921
L_90~270 (75) av	813
L_90~270 (85) av	721
L_45 (65) av	1239
L_45 (75) av	1440
L_45 (85) av	2790

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-07-01

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.750m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: COLORS
Test Date: 2019-07-01

Range: 0 - 180DEG
Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.750m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.1710A P:4.100W PF:1.000 Freq:0Hz Lamp Flux:59.4263x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0RGB24CSS050CC0100-R	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

Table--1

UNIT: cd

C (DEG) g (DEG)	0	90	180	270															
0	13.2	13.2	13.2	13.2															
5	13.2	13.1	13.2	13.2															
10	13.2	13.0	13.2	13.0															
15	13.0	12.7	13.1	12.7															
20	12.8	12.3	12.9	12.2															
25	12.6	11.8	12.7	11.7															
30	12.3	11.1	12.4	11.1															
35	11.9	10.4	12.1	10.3															
40	11.5	9.62	11.7	9.53															
45	11.0	8.72	11.3	8.63															
50	10.5	7.77	10.8	7.71															
55	10.0	6.79	10.3	6.72															
60	9.41	5.76	9.70	5.70															
65	8.78	4.69	9.11	4.65															
70	8.16	3.57	8.48	3.59															
75	7.55	2.50	7.84	2.55															
80	6.94	1.47	7.21	1.56															
85	6.38	0.65	6.62	0.86															
90	5.88	0.18	6.07	0.39															
95	5.42	0.05	5.57	0.12															
100	5.02	0.05	5.13	0.06															
105	4.64	0.06	4.72	0.05															
110	4.04	0.07	3.97	0.05															
115	3.37	0.08	3.52	0.05															
120	3.26	0.10	3.36	0.06															
125	2.90	0.12	3.04	0.08															
130	2.56	0.13	2.72	0.08															
135	2.20	0.13	2.32	0.08															
140	1.88	0.15	1.89	0.08															
145	1.60	0.15	1.52	0.09															
150	1.35	0.16	1.23	0.09															
155	1.00	0.18	0.97	0.12															
160	0.76	0.18	0.68	0.14															
165	0.54	0.19	0.31	0.18															
170	0.21	0.19	0.24	0.19															
175	0.20	0.19	0.19	0.19															
180	0.19	0.19	0.18	0.19															

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks: